

# P.108

## IN THE AIR

*Notes on a Brief Flight in Boulton Paul's Mercury-engined Balliol Prototype*

By

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MANY visitors to Radlett last year will recall the outstanding demonstration of the Boulton Paul P.108 trainer—a credit to the manufacturers and to their chief test pilot, Mr. Lindsay Neale. Last week I was able to put the aircraft through its paces at Wolverhampton, in the company of Mr. Peter Tisshaw, who has been with the company about 12 months and is at present doing a lion's share of all the testing. Mr. Lindsay Neale hopes to be declared fit for flying again some time next month. Having flown the P.108, I now look forward even more to handling the Mamba-powered Balliol, which should have all the P.108's sweetness of control, together with added power, reduced noise and engine vibration, and improved forward view.

No particular interest attaches to the instruments and control layout of this one-off prototype, but the cockpit itself, which will be reproduced in the Balliols, is spacious and comfortable. At present a stick with spade grip is fitted on the port side and spectacle wheel on the starboard. The controls are interchangeable, and this arrangement, incidentally, has set quite a problem in regard to weight of controls intended for use with one or two hands respectively. A very fair compromise seems to have been achieved.

The Mercury engine has been made to pick up on a slightly modified Mamba mounting, and is so positioned as to give a similar load distribution. As a result it is well forward of the natural position for such a radial unit, and the pilot's view is somewhat restricted on the ground by comparison with the Balliol.

Ground handling of the aircraft is quite fascinating. The very wide track makes for stability, and a steerable tail wheel gives exceptional directional control. For a quick turn-about, a touch on the powerful pneumatically controlled brakes, with rudder applied, causes the stops limiting angular movement of the tailwheel to be over-ridden, Harvard fashion, and the aircraft will, if necessary, whip

round on the spot. On centralizing the rudder again the tailwheel limit stops re-engage. Although the P.108 appears to have a lot of weight forward, brakes can be applied fiercely on the landing run or when taxiing fast, without the tail lifting, and a full-throttle run-up can be made safely against the brakes without fear of the tail rising. I admit that Mr. Tisshaw's demonstration of the terrific braking power on tarmac both impressed and alarmed me. Control on out-of-wind landings is very good. While on the ground I also tried out the power-operated sliding canopy which seems most efficient and is very rapid in action. Boulton-Paul's turret experience came in useful when the canopy and its power mechanism were designed.

Before take-off a conscientious check was made, which in details associated with the old Mercury such as hand-operated gills, mixture controls, boost over-rides, etc., took me back several years. Rudder trim was set three to port, elevators and ailerons at neutral. The pneumatically-operated flaps have a three-position quadrant, the gate being for take-off, but the lever can also remain in any intermediate position, thus permitting the pilot to select any desired angle.

On the 800 or so h.p. of the Mercury 25, the take-off of the P.108 is very satisfactory. The change of attitude as the tail lifts is less than one



*The controls on the P.108 are very pleasing and the aircraft is highly manoeuvrable.*



*Take-off from the Boulton-Paul field at Wolverhampton.*